Claims

1. A method for converting between color space formats, comprising:

identifying a first color space format;

selecting both an offset parameter and a scale parameter associated with the first color space format;

identifying a conversion matrix configured to convert values associated with the first color space format to a second color space format; and

determining when to apply the offset parameter and the scale parameter in relation to application of the conversion matrix.

2. The method of claim 1, wherein the method operation of determining when to apply the offset parameter and the scale parameter in relation to application of the conversion matrix includes,

identifying the first color space format as a YUV based color format and the second color space format as an RGB based color format;

applying the offset parameter and the scale parameter prior to the application of the conversion matrix.

3. The method of claim 1, wherein the method operation of determining when to apply the offset parameter and the scale parameter in relation to application of the conversion matrix includes,

identifying the first color space format as an RGB based color format and the second color space format as a YUV based color format;

applying the offset parameter and the scale parameter after the application of the conversion matrix.

4. The method of claim 2, further comprising:

manipulating a color balance characteristic associated with the RGB based color format; and

outputting data associated with the RGB based color format.

5. The method of claim 4, wherein the method operation of manipulating a color balance characteristic associated with the RGB based color format includes,

defining an other offset parameter;

applying the other offset parameter after the application of the conversion matrix to the values.

6. The method of claim 1, wherein the method operation of selecting both an offset parameter and a scale parameter associated with the first color space format includes,

adjusting one of a brightness characteristic and a hue characteristic through a value associated with the offset parameter.

7. The method of claim 1, wherein the method operation of selecting both an offset parameter and a scale parameter associated with the first color space format includes,

adjusting a color balance characteristic through a value associated with the offset parameter.

8. The method of claim 1, wherein the method operation of selecting both an offset parameter and a scale parameter associated with the first color space format includes,

adjusting one of a contrast characteristic and a saturation characteristic through a value associated with the scale parameter.

9. A computer readable medium having program instructions for converting between color space formats, comprising:

program instructions for identifying a first color space format;

program instructions for selecting both an offset parameter and a scale parameter associated with the first color space format;

program instructions for identifying a conversion matrix configured to convert values associated with the first color space format to a second color space format; and

program instructions for determining when to apply the offset parameter and the scale parameter in relation to application of the conversion matrix.

10. The computer readable medium of claim 9, wherein the program instructions for determining when to apply the offset parameter and the scale parameter in relation to application of the conversion matrix includes,

program instructions for identifying the first color space format as a YUV based color format and the second color space format as an RGB based color format;

program instructions for applying the offset parameter and the scale parameter prior to the application of the conversion matrix.

11. The computer readable medium of claim 9, determining when to apply the offset parameter and the scale parameter in relation to application of the conversion matrix includes,

program instructions for identifying the first color space format as an RGB based color format and the second color space format as a YUV based color format;

program instructions for applying the offset parameter and the scale parameter after the application of the conversion matrix.

12. The computer readable medium of claim 9, wherein the program instructions for selecting both an offset parameter and a scale parameter associated with the first color space format includes,

program instructions for adjusting one of a brightness characteristic and a hue characteristic through a value associated with the offset parameter.

13. The computer readable medium of claim 9, wherein the program instructions for selecting both an offset parameter and a scale parameter associated with the first color space format includes,

program instructions for adjusting a color balance characteristic through a value associated with the offset parameter.

14. The computer readable medium of claim 9, wherein the program instructions for selecting both an offset parameter and a scale parameter associated with the first color space format includes,

program instructions for adjusting one of a contrast characteristic and a saturation characteristic through a value associated with the scale parameter.

15. A display controller, comprising:

an input port configured to receive video data from an external device;

a programmable register block configured to store color space conversion factors; and

a color space conversion block configured to convert the video data between color space formats, the color space conversion block capable of applying the color space conversion factors to one of an input to the color space conversion block and an output from the color space conversion block, the application of the color space conversion factors based upon a type of color format associated with the received video data.

16. The display controller of claim 15, further comprising a memory region configured to store the converted video data.

17. The display controller of claim 15, wherein the programmable register block includes twenty one registers.

18. The display controller of claim 17, wherein nine registers of the twenty one registers are configured to store conversion coefficients configured to convert the video data from a first color space format to a second color space format.

19. The display controller of claim 18, wherein a remainder of the twenty one registers are configured to store data selected from the group consisting of input offset values, output offset values, input scale values and output scale values.

20. The display controller of claim 15, wherein if the type of color format is a YUV based color format, the color space conversion block applies the color space conversion factors to the input.

21. The display controller of claim 15, wherein the color space conversion block is configured to independently apply a scale parameter and an offset parameter to one of the input and the output.

22. An integrated circuit, comprising:

circuitry for storing color space conversion factors, the color space conversion factors including matrix conversion factors, scaling factors and offset factors;

circuitry for receiving video input data associated with a first color space format;

circuitry for applying selected color space conversion factors to the received video input data, the circuitry for applying selected color space conversion factors including,

circuitry for adjusting a contrast characteristic of the video input data;

circuitry for adjusting a brightness characteristic of the video input data; and

circuitry for applying a conversion matrix to convert the input video data to a second color space format, the conversion to the input data occurring after one of the contrast characteristic and the brightness characteristic has been adjusted.

23. The integrated circuit of claim 22, wherein the circuitry for applying selected color space conversion factors further includes,

circuitry for adjusting a color balance characteristic associated with the second color space format.

24. The integrated circuit of claim 22, wherein the integrated circuit is incorporated into a handheld electronic device having a liquid crystal display (LCD).

25. The integrated circuit of claim 22, wherein the circuitry for storing color space conversion factors includes 21 programmable registers.

26. The integrated circuit of claim 22, wherein the circuitry for adjusting a contrast characteristic of the video input data is a multiplier.

27. The integrated circuit of claim 22, wherein the circuitry for adjusting a brightness characteristic of the video input data is an adder.